STATE FOREST LAND
ENVIRONMENTAL CHECKLIST

Purpose of Checklist:

The State Environmental Policy Act (SEPA), chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decided whether an EIS is required.

Instructions for Applicants:

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can. *Questions in italics are supplemental to Ecology's standard environmental checklist. They have been added by the DNR to assist in the review of state forest land proposals. Adjacency and landscape/ watershed-administrative-unit (WAU) maps for this proposal are available on the DNR internet website at http://www.dnr.wa.gov under "SEPA Center." These maps may also be reviewed at the DNR regional office responsible for the proposal. This checklist is to be used for SEPA evaluation of state forest land activities.*

You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply." Complete answers to the questions now may avoid unnecessary delays later. *All of the questions are intended to address the complete proposal as described by your response to question A-11. The proposal acres in question A-11 may cover a larger area than the forest practice application acres, or the actual timber sale acres.*

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Use of checklist for nonproject proposals:

Complete this checklist for nonproject proposals, even though questions may be answered " does not apply." IN ADDITION, complete the SUPPLEMENTAL SHEET FOR NON PROJECT ACTIONS (part D).

For nonproject actions, the references in the checklist to the words "project," "applicant," and "property or site" should be read as "proposal," "proposer" and "affected geographic area," respectively.

A. BACKGROUND

1. Name of proposed project, if applicable:

   Timber Sale Name: LARSON LAKE *Agreement #:30-084835*

2. Name of applicant: Washington State Department of Natural Resources

3. Address and phone number of applicant and contact person:

   Mark Benner
   411 Tillicum Lane,
   Forks ,WA 98331
   Phone: (360) 374-2800

4. Date checklist prepared: 12/14/2009

5. Agency requesting checklist: Washington State Department of Natural Resources

6. Proposed timing or schedule (including phasing, if applicable):

   a. *Auction Date:06/23/2010*
   b. *Planned contract end date (but may be extended):10/31/2011*
   c. *Phasing: None*

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

   Pock pits used or developed as part of this proposal may be expanded in the future for road maintenance needs or other timber sale proposals.

   Timber Sale

   a. *Site preparation:* Slash piling and burning or chipping of landing debris, application of ground herbicide.

   b. *Regeneration Method:* Hand plant 184 acres.

   c. *Vegetation Management:* Herbicide and/or mechanical treatments possible.

   d. Thinning: Pre-commercial thinning and commercial thinning possible.

   Roads: Road maintenance will include: road grading, re-establishment of ditches, necessary cleaning of inlets and outlets of culverts, and the repair or replacement of culverts (if applicable). Roads used or built will be utilized for future management activities.

Other: Future forest management activities are anticipated to continue within the Chimakum WAU, and adjacent to the current proposal. Potential activities may include but are not limited to firewood salvage, hardwood slashing, pre-commercial thinning, commercial thinning, and variable retention harvest. These future activities are connected with this proposal insofar as they will occur in close proximity to the sale area, and the roads constructed or reconstructed under this proposal may be used to perform the required work. All future activities will be consistent with the State's Habitat Conservation Plan (HCP), and applicable policy and planning documents.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

☒*303 (d) – listed water body in WAU:*
The Chimakum WAU includes Port Townsend Harbor, Admiralty Inlet and Chimacum Creek for:
☒*temp* ☐*sediment* ☒*completed TMDL (total maximum daily load):* fecal coliform
☐*Landscape plan:*
☐*Watershed analysis:*
☐*Interdisciplinary team (ID Team) report:*
☒*Road design plan:* Larson Lake Road Plan dated 12/22/2009
☐*Wildlife report:*
☐*Geotechnical report:*
☐*Other specialist report(s):*
☐*Memorandum of understanding (sportsmen's groups, neighborhood associations, tribes, etc.):*
☒*Rock pit plan:* Paradise Pit Plan included in the Road Plan
☒*Other:* State Soil Survey, Habitat Conservation Plan dated Sept. 1997, Policy for Sustainable Forests dated July 2006, Planning and Tracking Special Concerns, Trax Reports, Water Type Modification Forms, WAU Reports, BNR Notification Memo RE: Harvest of Older Trees. The listed documents are available for review at the Olympic Region Office in Forks, WA.

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

Water type modification forms are being submitted to Forest Practice for stream type updates.

Forest Practice Application for road construction over Pope Resources' property.

10. List any government approvals or permits that will be needed for your proposal, if known.

☐*HPA* ☒*Burning permit* ☐*Shoreline permit* ☒*Incidental take permit* ☒*FPA* ☒*Other:* Board of Natural Resources approval

11. Give brief, complete description of our proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include specific information on project description.)

a. Complete proposal description:

The Larson Lake timber sale is a variable retention harvest and wetland management zone thinning composed of 5 units located near Chimacum Valley. Initially, 211 proposal acres were evaluated for potential harvest. Activity objectives dictated the following area designations were established for logistics and environmental or resource protection reasons: 8 acres of leave tree areas to benefit wildlife and reduce aesthetic impacts, 11 acres of Riparian Management Zone (RMZ) and Wetland Management Zone (WMZ) protection, 2 acres of unstable slope protection, 5 acres of separation between unit boundaries, 6 acres of forested wetland protection, and 2 acres of roaded area. Of the initial gross proposal acreage (15%) has been dedicated to resource protection, and will help mitigate for potential impacts to these resources.

A variable retention harvest prescription will be applied on 4 units, and a basal area thinning will be applied to a WMZ totaling 184 net harvestable acres. This includes deductions for timber sale unit separation, roaded areas, RMZ/WMZ protection, leave tree clumps within traversed unit boundaries, unstable slope protection, and wetland protection. Of the 184 net harvestable acres, 177 are proposed to undergo variable retention harvest, and 7 acres are scheduled for WMZ thinning. Three percent of the sale area has been designed for a cable yarding harvest system. The rest of the sale is to be harvested by a ground based harvest system with timing and equipment restrictions.

Sale of Timber:	
Estimated Volume:	4,700 mbf
Initial Proposal Area in Acres:	211
Gross Traversed acres:	195
Net Sale Area in Acres:	
Unit 1:	28
Unit 2:	65
Unit 3:	17
Unit 4:	67
Unit 5:	7
Total:	184
Type of Harvest:	Variable retention harvest, Uneven aged thinning
Logging System:	Ground based and cable methods
Landings: Number	10

Ballast for road building material is expected to come from onsite sources, the Paradise Rock Pit, and/or a commercial source. Legal descriptions for the following State owned rock sources are as follows:

Onsite sources: Stations 41+79 and 52+95 of the PT-V-5000, Sec. 13 T28N R01W, W.M.
Paradise Pit: Sec. 34 T28N R01E, W.M.

b. *Timber stand description pre-harvest (include major timber species and origin date), type of harvest, overall unit objectives.*

Unit 1 will consist of a variable retention harvest. Elevation ranges from 400 to 470 feet. Timbered land inside Unit 1 lies within the *Tsuga heterophylla / Polystichum munitum* forested plant association, but site productivity is more indicative to that of the *Tsuga heterophylla / Gaultheria shallon* forested plant association. Tree species within the unit consist of Douglas fir, western red cedar, western hemlock, and red alder. The unit contains mainly second growth Douglas fir, with small patches of red cedar located next to wetland areas. The stand averages 61 years of age. Quadratic mean diameter is 11.1 inches. Top tree height is 113 feet. Douglas fir dominates the overstory canopy layer with western red cedar assuming the role of a co-dominant species. Plant vegetation is dominated by salal, oregon grae and sword fern. Several small forested wetlands, less than 0.25 acres in size, are located throughout the unit.

Timbered land inside Unit 2 lies within the *Tsuga heterophylla/ Polystichum munitum* forested plant association, but site productivity is more indicative to that of the *Tsuga heterophylla / Gaultheria shallon* forested plant association.. The unit will be a variable retention harvest. Elevation ranges from 360 to 470 feet. Tree species within the unit consist of Douglas fir, western red cedar, western hemlock, and red alder. Timber stand age is approximately 65 years with a small amount of older residual trees distributed throughout the unit. Quadratic mean diameter is 12.1 inches. Top tree height is 122 feet. Douglas fir dominates the overstory canopy layer. Sword fern, salal, and rhododendron occupy the understory vegetative layer. One small forested wetland, under 0.25 acres in size, is located within the unit.

Unit 3 is scheduled to be a variable retention harvest. Elevation ranges between 400 and 450 feet. Timbered land inside Unit 4 lies within the *Tsuga heterophylla / Polystichum munitum* forested plant association. Timber stand age is 67, and the quadratic mean diameter is 12.8 inches with a top tree height of 118 feet. Tree species within the unit consist of Douglas fir, red alder, western hemlock, and western red cedar. The unit contains mainly second growth Douglas fir, with small patches of red alder confined to draw bottoms. Douglas fir dominates the overstory canopy layer, while red alder, and western hemlock are co-dominant species within the canopy. Understory plant vegetation consists of sword fern, and salal.

Unit 4 is planned to be a variable retention harvest. Elevation is between 580 and 640 feet. Timbered land inside Unit 4 lies within the *Tsuga heterophylla / Polystichum munitum* forested plant association. Timber stand age is 69, and the quadratic mean diameter is 13.6 inches with a top tree height of 121 feet. Tree species such as Douglas fir, western red cedar, and western hemlock dominate the timber stand. Several small patches of red alder are also located within the timber stand. Two small forested wetlands, less than 0.25 acres in size, are located within the unit. Understory plant vegetation consists of sword fern, and salal.

Unit 5 is a grouping of three individual wetland management zones (WMZs) located interior to Unit 1. Unit 5 is scheduled to be a WMZ thinning. Elevation ranges from 400 to 470 feet. The unit lies within the *Tsuga heterophylla / Polystichum munitum* forested plant association, but site productivity is more indicative to that of the *Tsuga heterophylla / Gaultheria shallon* forested plant association. The timber stand will be reduced to an average basal area of no less than 120 square feet per acre. The timber stand within Unit 5 consists of Douglas fir, western red cedar, and red alder. Stand age is approximately 61 years. Quadratic mean diameter for this unit is 11.1 inches. Top tree height is 113 feet. Douglas fir dominates the overstory canopy layer. Several small forested wetlands, greater than 0.25 acres but less than 1.0 acre in size, are located interior to the unit and have been bound outside the timber sale boundary. Plant vegetation is dominated by sword fern.

Activity objectives for this proposal are multifaceted. The timber sale will provide revenue to the trust beneficiaries while protecting ecological values. This includes designing a regeneration harvest that will: maintain trees of unique structural characteristics such as large diameter conifer with big limbs, or defects such as broken and/or multi-tops, protect soil productivity and unstable slopes, protect Type 3 and 5 streams and seeps in order to maintain water quality and fish habitat, protect wetlands, and develop a road system that will most efficiently serve management needs while minimizing long term road impacts.

c. *Road activity summary. See also forest practice application (FPA) for maps and more details.*

Type of Activity	How Many	Length (feet) (Estimated)	Acres (Estimated)	Fish Barrier Removals (#)
Construction		7257	2.5*	0
Reconstruction		0		0
Abandonment		0	0	0
Bridge Install/Replace	0			0
Culvert Install/Replace (fish)	0			0
Culvert Install/Replace (no fish)	14**			

*Acreage based on a 15 foot subgrade

** Ditch re-establishment, and ditch and culvert clean out are included with pre-haul maintenance. Required pre-haul maintenance consists of 13,976 feet. Optional pre-haul maintenance consists of 5,155 feet.

12. Location of proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist. *(See timber sale map available at DNR region office, and/or color landscape/WAU map on the DNR website http://www.dnr.wa.gov under "SEPA Center.")*

a. Legal description:

Unit 1: SW ¼ NW ¼ Sec. 13 T28N R01W, W.M.
Unit 2: S ½ NE ¼ Sec. 13 T28N R01W, W.M.
Unit 3: S ½ NE ¼, N ½ SE ¼, Sec. 16 T28N R01W, W.M.
Unit 4: E ½ SE ¼ Sec. 16 T28N R01W, W.M.
N ½ NE ¼ Sec. 21 T28N R01W, W.M.
Unit 5: SW ¼ NW ¼ Sec. 13 T28N R01W, W.M.
Rock Pit: NW ¼ NW ¼ Sec. 34 T28 R01E, W.M.

b. *Distance and direction from nearest town (include road names):*

Units 1 & 2:
From Highway 104 at milepost 9 travel 0.1 miles west. Make a right hand turn onto Highway 19 and travel 2.6 miles. Make a left hand turn onto Larson Lake Rd and travel 0.9 miles. Make a left hand turn onto the PT-V-5000. Unit 1 of the timber sale is located 0.2 miles on the PT-V-5000. Unit 2 of the timber sale is located 0.5 miles on the PT-V-5000.

Units 3 & 4:
From Highway 104 at milepost 6 travel west for 1.6 miles. Exit right and make a right hand turn onto Center-Quilcene Rd. Travel 0.9 miles south. Make a left hand turn onto Dabob Rd and travel 0.5 miles. Make a left hand turn onto the PT-O-1000 and travel 0.7 miles. Unit 3 of the timber sale is located 0.6 miles down the PT-O-1100. Unit 4 of the timber sale is located an additional 0.6 miles down the PT-O-1000 and off the PT-O-1400.

c. *Identify the watershed administrative unit (WAU), the WAU Sub-basin(s), and acres. (See also landscape/WAU map on DNR website http://www.dnr.wa.gov under " SEPA Center.")*

WAU Name	WAU Acres	Proposal Acres
CHIMAKUM	52443*	184

*Acreage reflects State Lands records of total dryland within the Chimakum WAU. State Lands' records indicate acreage computations for the WAU represent total dryland acres, and do not include Puget Sound waters.

13. *Discuss any known future activities not associated with this proposal that may result in a cumulative change in the environment when combined with the past and current proposal(s). (See digital ortho-photos for WAU and adjacency maps on DNR website http://www.dnr.wa.gov under "SEPA Center" for a broader landscape perspective.)*

The proposal is located in the Chimakum WAU of the Quilcene-Snow WRIA. The DNR currently owns and manages 2,279 acres within the Chimakum WAU. Other mixed ownership within the Chimakum WAU totals 50,164 acres (see table 13.1). The surrounding landscape is that of W.A. State DNR Trust Lands, large privately owned commercial forest land, and small privately owned parcels. Past timber harvest on State land has occurred in 2003 near Units 3 and 4. Future timber harvest on State land near the proposed sale area is expected. For a more in-depth description of timber types, timber ages, and landscape features in the vicinity of the proposal area see answer B.4.b.1.

Table 13.1 Chimakum WAU Ownership

Land Owner	Acres	% of WAU
DNR	2,279	4.3
Federal	2,626	5.0
Other State (Non-DNR)	1,756	3.3
Other Land (Private & Public Land)	45,782	87.3

*Table assembled from the DNR General Information Report, Chimakum WAU (#170203) 12/02/2009.

Based on reported data through Dec 2009 for sold and completed regeneration harvests for the Chimakum WAU, 955 forest land acres (48%) of State Lands are hydrologically immature and within the 0-24 age class. Within the WAU, State lands that are hydrologically mature and over 25 years of age total 1,051 acres (52%). This information does not include the 184 acres of timber harvest associated with the proposed Larson Lake timber sale, the 41 acres of planned timber harvest associated with the Thompson Center timber sale, nor does it include the 49 acres of planned timber harvest associated with the Silent Alder timber sale. The information presented in the Chimakum WAU Status Report also does not consider an allowance for rollover of 23 & 24 year old stands that will cross the hydrologic maturity threshold during the life of the planned sale. However, this information does account for sold and completed sales within the WAU as of December 02, 2009 (See Table 13.2).

Table 13.2 Chimakum WAU Present Forest Conditions (as of December 02, 2009)

Parameters	Acres	Ratio
WAU	52,443	
Total DNR managed forest land	2,006	3.8% of the WAU
DNR managed forest land 25+ years (Hydrologically mature)	1,051	52%
DNR managed forest land <25 years (Hydrologically Immature)	955	48%

*Table assembled from the DNR General Information Report, Chimakum WAU (#170203) 12/02/2009.

When including the 184 acres of the Larson Lake timber sale, 41 acres of the Thompson Center timber sale, and 49 acres of the Silent Alder timber sale, hydrologically mature and immature data for the Chimakum WAU as of December 02, 2008 includes: (see table 13.3)

Table 13.3 **Chimakum WAU Future Forest Conditions When Including The Proposed Larson Lake Timber Sale, Thompson Center Timber Sale, and Silent Alder Timber Sale.**

Parameters	Acres	Ratio
WAU	52,443	
Total DNR managed forest land	2006	3.83% of the WAU
DNR managed forest land 25+ years (Hydrologically Mature)	777	39%
DNR managed forest land <25 years (Hydrologically Immature)	1,229	61%

*Table assembled from the DNR General Information Report, Chimakum WAU (#170203) 12/02/2009.

Future timber management of DNR State lands is planned within the Chimakum WAU. The annual rates of past and present harvests for public and private lands within the WAU are shown below (see table 13.4).

Table 13.4 **Chimakum WAU**

Chimakum WAU	WAU Acres	Acres Of Even-Aged Harvest Within The Last Seven Years	Acres of Uneven-Aged Harvest Within The Last Seven Years	Average Annual Rate of Even-Aged Harvest
DNR managed forest land	2,006	288	143	2%
Other DNR lands	273	0	0	N/A
Non-DNR Lands	50,164	1,438	659	0.4%
Total	52,443	1,726	802	N/A

* Table compiled from approved Forest Practice Applications for the Chimakum WAU.

All current and future activities will be conducted according to the State's HCP, Policy for Sustainable Forests, State Forest Practice Rules, and other planning documents, and are expected to mitigate for any potential adverse cumulative effects. Several measures have been taken to reduce the risk of negative environmental impacts. The proposal has realized a 6% reduction in intensively managed acreage for the protection of unstable slopes, streams, wetlands, and associated RMZs. The construction of leave tree areas has created an additional 4% reduction in intensively managed acres. Dispersed and clumped leave trees have been left to provide structure for many wildlife species to use, and reduce the visual impacts of the harvest. The density of leave trees will be 8 trees per acre in all timber sale units. Snags and large downed woody debris will be left on site. Road network planning has been performed in order to minimize the amount of road construction needed, and to guarantee the quality of existing and newly constructed roads. By employing cable logging methods on a small portion of Unit 2, soil disturbance and excess rutting may be minimized. Timing restrictions on road construction will help to maintain the integrity of existing roads, and reduce the potential for off-site movement of sediments. Ground yarding in all units may be suspended during periods of severe wet soil conditions when rutting of skid roads begins. The Planning and Tracking Special Concerns Report and Forest Practice TRAX database has been checked against the possibility of threatened and endangered species on or near the proposal area. Geographical Information System (G.I.S.) based landscape reports have been analyzed to evaluate the relationship between present forest conditions within the WAUs and the location of the proposed sale area in regards to the rain-on-snow zone.

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site (check one):

☒Flat, ☐Rolling, ☐Hilly, ☐Steep Slopes, ☐Mountainous, ☐Other:

1) General description of the WAU or sub-basin(s) (landforms, climate, elevations, and forest vegetation zone).

The Chimakum WAU consists of 52,443 acres of which 2,006 are DNR managed Forest Lands. Topography of the area ranges between flat and gently rolling farmland in the lower reaches of the WAU around Chimacum Valley, to hilly near the upper reaches of the WAU where a large amount of commercial forest resides. The minimum elevation in the WAU is 0 feet sea level on the tidal flats of Port Townsend and Oak Bay. Maximum elevation reaches 904 feet along the defining ridges of the WAU. The climate of the area is characterized by maritime temperate influences where minimum precipitation averages 15 inches per year, and maximum precipitation reaches 35 inches per year. The weighted average precipitation for the WAU is 25 inches per year. The entire WAU resides in the lowland zone and contains no rain-on-snow area. The majority of the WAU is dominated by the *Tsuga heterophylla / Gaultheria shallon* and the *Tsuga heterophylla / Polystichum munitum* forested plant associations. Major tree species include: Douglas fir, western red cedar, western hemlock, and red alder. Understory species are dominated by indicator plants such as sword fern and salal.

2) Identify any difference between the proposal location and the general description of the WAU or sub-basin(s).

The proposed timber sale is located within the *Tsuga heterophylla/ Polystitchum munitum* forested plant association. Average elevation is 500 feet above sea level. Some steeper slopes are present along the northwest and eastern boundaries of Unit 2.

b. What is the steepest slope on the site (approximate percent slope)?

The steepest slopes within the proposed timber sale are short pitches at 47 to 60% in Units 2 and 3.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland. *Note: The following table is created from state soil survey data. It is a roll-up of general soils information for the soils found in the entire sale area. It is only one of several site assessment tools used in conjunction with actual site inspections for slope stability concerns or erosion potential. It can help indicate potential for shallow, rapid soil movement, but often does not represent deeper soil sub-strata. The actual soils conditions in the sale area may vary considerably based on land-form shapes, presence of erosive situations, and other factors. The state soil survey is a compilation of various surveys with different standards.*

State Soil Survey #	Soil Texture or Soil Complex Name	% Slope	Acres	Mass Wasting Potential	Erosion Potential
7642	GRAVELLY SANDY LOAM	15-30	62	INSIGNIFIC'T	LOW
7641	GRAVELLY SANDY LOAM	0-15	55	INSIGNIFIC'T	LOW
2000	GRAVELLY SANDY LOAM	15-30	48	INSIGNIFIC'T	LOW
0056	GRAVELLY SANDY LOAM	0-15	11	INSIGNIFIC'T	LOW
0064	GRAVELLY SANDY LOAM	15-30	3	INSIGNIFIC'T	LOW
5642	V.GRAVELLY SILT LOAM	30-50	3	LOW	MEDIUM
0973	GRAVELLY SILT LOAM	15-30	1	INSIGNIFIC'T	LOW
1601	V.GRAVELLY SANDY LOAM	15-30	1	INSIGNIFIC'T	LOW
0052	GRAVELLY LOAM	15-30	0	INSIGNIFIC'T	LOW

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

1) *Surface indications:*

Two small shallow rapid failures have been observed in the steeper inner gorge areas of the immediate vicinity near Unit 2. They measure 20' x 20' and 20' x 30' in size.

2) *Is there evidence of natural slope failures in the sub-basin(s)?*
☒*No* ☐*Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:*

The proposed sale area is located in a large subbasin characterized by flat to rolling terrain. The larger deep seated slope failures in the sub-basin are associated with steep bluff lines along Port Townsend and Oak Bay. Some shallow rapid type features are observed within steeply incised drainages.

3) *Are there slope failures in the sub-basin(s) associated with timber harvest activities or roads?*
☒*No* ☐*Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:*
Associated management activity:

4) *Is the proposed site similar to sites where slope failures have occurred previously in the sub-basin(s)?*
☒*No* ☐*Yes, describe similarities between the conditions and activities on these sites:*

5) *Describe any slope stability protection measures (including sale boundary location, road, and harvest system decisions) incorporated into this proposal.*

The DNR's Slope Stability Specialist has been consulted and an on-site visit was performed. A riparian area containing an inner gorge has been excluded from the proposed sale area and protected according to the HCP. A steeper area in the northeast corner of Unit 2 has been excluded from the harvest area and protected by a leave tree area. Designated cable logging areas require lead-end suspension when harvesting timber in order to minimize soil compaction and rutting. Landings and skid trails associated with cable logging areas have been pre-designated in an effort to maximize deflection and reduce the number of cable settings.

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.
Approx. acreage new roads: 2 acres* *Approx. acreage new landings:* 1.4 acres *Fill source:* 3,903 cubic yards of on-site native material, pitrun ballast, and commercially owned rock sources.
* *Based on a 12-foot running surface.*

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

A small amount of surface erosion incidental to freshly exposed soils is anticipated.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)? *Approximate percent of proposal in permanent road running surface (includes gravel roads):*

Approximately 2 acres will be covered due to the construction of gravel roads.*
* *Based on a 12-foot running surface.*

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:
(Include protection measures for minimizing compaction or rutting.)

The harvest system planned for the proposed timber sale has measures taken to prevent soil compaction and displacement. All proposed timber sale units will be yarded by ground logging methods with the exception of two acres in Unit 2 that has been designed for a cable yarding system. Ground yarding shall be accomplished by way of shovel and/or tracked skidder, except a rubber tired skidder may be allowed to operate in the driest four months. Rubber tired skidding will be restricted between the months of November 1st to June 30th unless approved otherwise. Feller-buncher operations will not be allowed on slopes exceeding 40%. One thousand feet of skid trail abandonment is scheduled to occur in Unit 1, 1000 feet in Unit 2, 600 feet in Unit 3, and 2000 feet in Unit 4. Skid trail abandonment will consist of fluffing the soil to a depth of 18 inches, restoring the slope to its natural configuration, installing waterbars where appropriate, and scattering woody debris over the abandoned area. Grass seeding and mulching will be required on all fill slopes. Lead end suspension will be required during cable yarding in an effort to minimize rutting in yarding corridors. Equipment and timing restrictions have been implemented in order to reduce potential soil compaction and overland water channelization from wet weather operations. Timing restrictions on road building operations will help to minimize off-site movement of sediments.

2. Air

a. What types of emissions to the air would result from the proposal (i.e., dust *from truck traffic, rock mining, crushing or hauling*, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

Insignificant amounts of engine exhaust from logging equipment and dust from passing log trucks is expected. The burning of logging slash will adhere to the State's smoke management plan.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

None

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

Debris burning will adhere to the State's smoke management plan.

3. Water

a. Surface:

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into. *(See timber sale map available at DNR region office, or forest practice application base maps.)*

Yes, see below.

a) Downstream water bodies:

Units 1 & 5:
Five forested wetlands, less than 0.25 acres in size, are located within Units 1 and 5 of the proposed sale area. Three of the wetlands have been protected with leave tree areas. The remaining two forested wetlands, less than 0.25 acres in size, are in close enough proximity to larger wetlands, they have been assimilated into adjacent wetland management zones. Three additional forested wetlands, greater than 0.25 acres but not more than 1 acre in size, are also located within the proposed timber sale units. The wetlands each have been given a 100 foot wide wetland management zone.

Unit 2:
The Forest Practice database indicates there are four Type 5 streams located near the proposed sale area of Unit 2. On-the-ground observation has verified only three of these four streams exist. In addition, a Type 5 stream not listed in the Forest Practice database has been discovered near the proposed sale area. Four streams in total are near the proposal area. Two of the streams are Type 5 and are located to the east and outside of the proposed timber sale unit. The remaining two Type 5 streams area positioned in/and or near the southwest corner of the unit. The two streams flow and then converge to form a Type 3 stream. The Type 3 stream continues to flow northward where it merges with a second Type 3 stream and a large forested wetland. The large forested wetland and two Type 3 streams are located outside the proposed timber sale boundary. Two headwall seeps are located at the toe of the hillside near the edge of the large forested wetland. An additional small forested wetland, less than 0.25 acres in size, is located within the proposed unit. The wetland has been protected with a leave tree area.

Unit 3:
The Forest Practice database indicates there is a stream located in Unit 3. On-the-ground observations of the area prove this is a dry draw with no defined stream channel.

Unit 4:
Two small forested wetlands are located within the proposed timber sale unit. Both wetlands are less than 0.25 acres in size. Leave tree areas have been constructed around the wetlands.

b) Complete the following riparian & wetland management zone table:

Wetland, Stream, Lake, Pond, or Saltwater Name (if any)	Water Type	Number (how many?)	Avg RMZ/WMZ Width in Feet (per side for streams)
Forested Wetlands <0.25 acres in size	Forested Wetland	8	Leave tree areas constructed around wetlands, or wetland assimilated into neighboring WMZ
Forested Wetlands >0.25 and <1.0 acres in size	Forested Wetland	3	100 foot buffer
Forested Wetlands >1.0 acres in size with associated Type 3 stream	Forested Wetland	1	Minimum 100 foot no-cut RMZ
Type 5 Stream	Non-fish bearing, non-perennial stream	1 3	30 foot no equipment zone Located outside proposed sale area
Type 3 Stream	Fish bearing, perennial stream	1 1	153 foot site index buffer plus additional 100 foot no-cut RMZ on assoc. wetlands Located outside proposed sale area

Headwall Seep	Headwall seep	2	50 foot buffer

c) *List RMZ/WMZ protection measures including silvicultural prescriptions, road-related RMZ/WMZ protection measures, and wind buffers.*

See question B. 3. a.1.a and B. 3.a.1.b above for answer. Also see answer to question B. 3.a.2 below.

Planned road construction will travel through a WMZ of Unit 5. On-site and in-kind equal area acreage mitigation has been provided in accordance with DNR's wetland policy. The loss in square foot basal area reduction as a result of road building has been compensated by providing for a basal area higher than 120 square feet/acre in other parts of the WMZ. Of the 0.03 acres of road planned to be constructed through the WMZ, an addition 0.03 acres of forested land has been added to the WMZ. This additional acreage has been attached to the original WMZ near the planned road construction.

2) Will the project require any work over, in, or adjacent to (within 200 feet) to the described waters? If yes, please describe and attach available plans.
☐*No* ☒*Yes (See RMZ/WMZ table above and timber sale map available at DNR region office.)*
Description (include culverts):

Harvest will occur within 200 feet of streams and wetlands. Harvest will occur within three WMZs (deemed Unit 5), but not within the delineated wetlands themselves. Wetlands within the WMZs contain low stocking levels and measure greater than 0.25 acres but not more than 1.0 acre in size. The WMZs measure 100 feet in width. The harvest prescription for the WMZ is a partial cut consisting of basal area reduction to an average of 120 square feet/acre, and retention of the dominant/co-dominant canopy strata containing wind-firm trees. Uptake and transpiration of groundwater has been maintained by leaving an average basal area greater than 120 square feet/acre in wetland buffers. Tree species left after harvest will include red alder, Douglas fir, hemlock, western red cedar, and quaking aspen.

No harvest will occur within the 100 foot no-cut RMZ of the wetland greater than 1 acre in size. No harvest will occur within protective leave tree areas around the forested wetlands. Timber will also be prohibited from being felled into, across, or yarded through leave tree areas. A 30-foot no equipment zone around the Type 5 stream in Unit 2 will be established via contract language as well.

Wind buffers were considered for the WMZs and RMZs. Due to the consistency of south prevailing winds within the area, and the current forest conditions of other neighboring RMZs, it was determined there was not a moderate or high risk to windthrow within the proposed sale area. Wind buffers were not applied. Additional width is already provided due to the associated wetland protection.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

None.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known. *(Include diversions for fish-passage culvert installation.)*
☒*No* ☐*Yes, description:*

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.
☒*No* ☐*Yes, describe location:*

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.
☒*No* ☐*Yes, type and volume:*

7) Does the sub-basin contain soils or terrain susceptible to surface erosion and/or mass wasting? What is the potential for eroded material to enter surface water?

Within the Chimakum WAU, 0.3% of the landbase contains soils with a high erosion potential. Two percent of the area is at a medium risk to erosion, while 87% of the WAU contains a low to insignificant erosion potential. Mass wasting potential within the WAU is low to insignificant on 94% of the landbase, and medium on 2% of the area. There are low to high mass wasting and erosion potentials in some portions of the sub-basins in the Chimakum drainage basin. Evaluation of the soils associated with this proposal indicates the potential for mass wasting is insignificant, and the potential for soil erosion is low.

8) Is there evidence of changes to the channels in the WAU and sub-basin(s) due to surface erosion or mass wasting (accelerated aggradations, erosion, decrease in large organic debris (LOD), change in channel dimensions)?
☒*No* ☐*Yes, describe changes and possible causes:*

9) Could this proposal affect water quality based on the answers to the questions 1-8 above?
☒*No* ☐*Yes, explain:*

A small increase in surface runoff is anticipated. Runoff is expected to return to pre-harvest conditions relative to this proposal within 25 years. Given the topography, soil types, hydrologic maturity of State lands in the WAU, and protective measures being taken, this proposal should have little effect on stream and water quality.

10) What are the approximate road miles per square mile in the WAU and sub-basin(s)?
Are you aware of areas where forest roads or road ditches intercept sub-surface flow and deliver surface water to streams, rather than back to the forest floor?
☒*No* ☐*Yes, describe:*

The G.I.S. database shows the Chimakum WAU holds 2.6 miles of road per square mile.

11) *Is the proposal within a significant rain-on-snow (ROS) zone? If not,* ***STOP HERE*** *and go to question B-3-a-13 below. Use the WAU or sub-basin(s) for the ROS percentage questions below.*
☒*No* ☐*Yes, approximate percent of WAU in significant ROS zone.*
Approximate percent of sub-basin(s):

12) *If the proposal is within the significant ROS zone, what is the approximate percentage of the WAU or sub-basin(s) within the significant ROS zone (all ownerships) that is (are) rated as hydrologically mature?*

13) *Is there evidence of changes to channels associated with peak flows in the WAU or sub-basin(s)?*
☐*No* ☒*Yes, describe observations:*

There have been increases in peak flows associated with small drainage basins that contain a high percentage of young (less than 25 years old) timber which have created channel scouring. Specific instances of this occurring have not been observed within or adjacent to the proposed sale area. Some channel downcutting was observed in two of the streams exterior to Unit 2.

14) *Based on your answers to questions B-3-a-10 through B-3-a-13 above, describe whether and how this proposal, in combination with other past, current, or reasonably foreseeable proposals in the WAU and sub-basin(s), may contribute to a peak flow impact.*

A small increase in peak flow is anticipated as a result of the proposal. Within the Chimakum WAU an increase in hydrologic maturity on DNR managed lands is projected over the next five years. This is based on the young stands in the landscape that will cross into the 25+ year age class. See question A.13 for more information. The Chimakum WAU currently has over 52% hydrologic maturity in DNR managed lands. Negative impacts to the WAUs and/or sub-basins are not anticipated based on the following reasons: the size of the harvest area in relation to the acreage contained within the WAU, the ability of the proposed sale area (and surrounding forest land) to regain hydrologic maturity through time, and the establishment of Riparian Management Zones along streams with associated forested wetlands.

15) *Is there water resource (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or downslope of the proposed activity that could be affected by changes in surface water amounts, quality, or movements as a result of this proposal?*
☐*No* ☒*Yes, possible impacts:*

Water resources that could be affected include, but are not limited to, Domestic ground water and surface water rights downstream from the proposal. It is expected there will be a slight increase in runoff during the wet season until the proposal area again reaches hydrologic maturity. Important objectives of this proposal are to protect streams and water quality from negative impacts. The sale design should minimize any potential negative impacts.

An inner gorge is located near the northeast corner of Unit 2. The feature has been protected by excluding it from the proposed harvest area with an area of protection that extends one tree canopy with above the main slope break.

16) *Based on your answers to questions B-3-a-10 through B-3-a-15 above, note any protection measures addressing possible peak flow/flooding impacts.*

Careful past, present, and future harvest planning has and will continue to distribute harvest across the landscape, through time, in order to reduce hydrologic impacts within the WAU. Road network planning has been performed in order to minimize the amount of road construction needed, and to ensure the quality of existing and newly constructed roads and their drainage systems. The types of harvest systems required for the proposed sale, and the seasonal limitations put on those harvest systems shall reduce the potential for negative impacts associated with peak flow/flooding events. G.I.S landscape reports were checked to evaluate the location of this proposal relative to the rain-on-snow zone-mapping units. The overall sale design will also help to minimize impacts as noted by the difference in net sale acreage relative to the proposal area acreage that was initially considered for harvest. The proposed sale area has had measures taken for the protection of streams and wetlands. Prompt reforestation will initiate a move towards the recovery of hydrologic maturity.

b. Ground *Water*:

1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.

No

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

Not applicable

3) *Is there a water resource use (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or down slope of the proposed activity that could be affected by changes in groundwater amounts, timing, or movements as a result this proposal?*
☐*No* ☒*Yes, describe:*

There are 12 ground water rights registered with the Department of Ecology that are potentially located downstream of this proposal. These are located in Sec. 11, 12, 18, 21, & 22 T28N R01W, W.M.. A small increase in groundwater volume is anticipated during peak storm events. Impacts to groundwater are not anticipated.

a) Note protection measures, if any.

See B.3.a.15 & 16 above

c. Water Runoff (including storm water):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

Storm water will be collected by ditches, ditchouts and cross drains and diverted to stable forest floor material.

2) Could waste materials enter ground or surface waters? If so, generally describe.

No

a) Note protection measures, if any.

None

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:
(See surface water, ground water, and water runoff sections above, questions B-3-a-1-c, B-3-a-16, B-3-b-3-a, and B-3-c-2-a.)

Also see B.1.h. and B.3.c.1 above. Yarding equipment restrictions and timing restrictions for logging activities, roadwork and rock haul will reduce the potential for off-site movement of sediment during the period of late fall through early spring when surface runoff is at its peak. The sale design, including harvest system design and road construction considerations, should maintain natural flow patterns.

4. Plants

a. Check or circle types of vegetation found on the site:

☒deciduous tree: ☒alder, ☒maple, ☒aspen, ☒*cottonwood,* ☐*western larch,* ☐*birch,* ☒other: bitter cherry
☒evergreen tree: ☒*Douglas fir,* ☐*grand fir,* ☐*Pacific silver fir,* ☐*ponderosa pine,* ☐*lodgepole pine,* ☒*western hemlock,* ☐*mountain hemlock,* ☐*Englemann spruce,* ☒*Sitka spruce,* ☒*red cedar,* ☐*yellow cedar,* ☒other: western white pine
☒shrubs: ☒*huckleberry,* ☒*salmonberry,* ☒*salal,* ☒*other:* Oregon grape, sword fern, stinging nettle, ocean spray, rhododendron.

☒grass
☐pasture
☐crop or grain
☒wet soil plants: ☐cattail, ☐buttercup, ☒bullrush, ☒skunk cabbage, ☐*devil's club,* ☐other:
☐water plants: ☐water lily, ☐eelgrass, ☐milfoil, ☐other:
☐other types of vegetation:

☐*plant communities of concern:*
*This is not meant to be an all inclusive list, but rather some of the species that were observed on the site.

b. What kind and amount of vegetation will be removed or altered? *(See answers to questions A-11-a, A-11-b, B-3-a-1-b and B-3-a-1-c. The following sub-questions merely supplement those answers.)*

This proposal involves harvesting 184 net acres of 61-69 year old mixed species heavy to Douglas fir and western red cedar. The species composition will not be significantly changed in the WAU, as the area will be reforested with similar species. Dispersed and clumped leave trees have been left to provide structure for many wildlife species to use, and reduce the visual impacts of the harvest. The density of leave trees will average 8 trees per acre over the entire sale. Leave trees include at least two trees per acre of the largest trees on site. Structurally unique trees that have been identified as valuable for wildlife have also been left. Approximately 4,897 thousand board feet of timber will be removed. Most of the conifer and deciduous trees will be harvested, with the exception of those left distributed throughout the sale area for wildlife purposes. Shrub and herbaceous plants will be disturbed during logging, however most species will recover and respond favorably to the increase in available sunlight. There will be a transition from more shade tolerant species to intolerant species. Some larger, structurally unique trees will be harvested for road construction, and safety concerns.

1) Describe the species, age, and structural diversity of the timber types immediately adjacent to the removal area. (See landscape/WAU and adjacency maps on the DNR website at: http://www.dnr.wa.gov under "SEPA Center.")

The proposal contains stands that fall within the western hemlock vegetation zone (TSHE). To the north and east of Unit 1 on private land rests a 15 year old timber stand composed of Douglas fir and western red cedar. Privately owned land to the east and south of Unit 1 contains a newly planted area of 2 year old Douglas fir and western red cedar.

To the north and east of Unit 2 are privately owned parcels containing a stand of Douglas fir and western red cedar 60+ years of age that show signs of past thinning activities. Private land south of Unit 2 partly contains the same forest type previously mentioned, and a 15 year old stand of Douglas fir and western red cedar. The eastern edge of Unit 2 is also located next to a private reproduction stand of 15 year old Douglas fir and western red cedar.

Unit 3 is bordered by Highway 104 to the north, To the eastern edge of the unit sits a 9 year old State lands plantation of Douglas fir, western red cedar, and western white pine. A 60+ year old stand of Douglas fir is located to the south. The western edge of the unit is bordered by a 3 year old State lands plantation of Douglas fir and western red cedar.

Unit 4 of the proposed sale area is bounded to the north by a 60+ year old stand of Douglas fir, and a 9 year old plantation of Douglas fir, western red cedar, and western white pine. To the east of the unit is a privately owned 25 year old stand of Douglas fir, and a 5 year old stand of Douglas fir and western red cedar. South of the unit lies a 7 year old State Lands plantation of Douglas fir and western red cedar. West of Unit 4 is a timbered stand of 60+ year old Douglas fir, western red cedar, and western hemlock.

Unit 5 of the proposal area is interior to unit 1. The timber type immediately adjacent to unit 5 is discussed in question A.11.b (Unit 1 timber stand description) and will be harvested.

2) *Retention tree plan:*

Leave tree selection criteria and leave tree distribution strategies were chosen to satisfy several objectives. Objectives included wetland protection, snag protection, retaining old growth or transitional trees, selection of trees with unique wildlife value, the goal of maintaining windfirm leave tree areas, and mitigation for any potential visual impacts. Leave trees include at least two trees per acre of the largest trees on site. The majority of trees chosen for leave are larger and older dominants selected to ensure wind firmness. Structurally unique trees that have been identified as valuable for wildlife have also been left. Designated leave trees have been individually dispersed throughout the unit, and grouped together as leave tree clumps. Leave tree areas contain a representative account of the structural diversity and species composition currently found in the unit. Eight trees per acre were retained for this proposal. Scattered individual old-growth trees were identified and protected.

Unit 1 of the proposed sale area contains 77 individual leave trees. Four leave tree areas containing 158 trees are distributed throughout the unit. Three small forested wetlands (<0.25 acres) were located within the unit and protected by constructing 3 of the 4 leave tree areas around them. In total, 235 trees have been designated for green tree retention.

Unit 2 includes 161 individual leave trees. Seven leave tree areas containing 383 trees are distributed throughout the unit. Two smaller old growth residual Douglas fir 24 inches and 25 inches dbh, must be harvested because they occurred in necessary road locations. A small forested wetland (<0.25 acres) was protected by the construction of a leave tree area around it. A total of 544 leave trees have been selected for green tree retention.

Unit 3 holds 37 individually marked leave trees. Five individual, old-growth residual Douglas fir must be harvested because they occurred in necessary road locations. These trees were from 16-25 inches dbh, with an average dbh of 23 inches. Three leave tree areas containing 115 trees are scattered throughout the unit. In total, 152 leave trees have been retained with the timber sale design.

Unit 4 contains 186 individual leave trees. Seven leave tree areas containing 384 leave trees are scattered throughout the unit. Two small forested wetlands (<0.25 acres) were identified and protected within leave tree areas. In total, 570 leave trees have been incorporated into the timber sale design.

Unit 5 is not a variable retention harvest. The silvicultural prescription for the unit is a partial cut by thinning the WMZ to a basal area of no less than 120 square feet per acre.

c. List threatened or endangered *plant* species known to be on or near the site.

TSU Number	FMU_ID	Common Name	Federal Listing Status	WA State Listing Status
None Found in Database Search				

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

Dispersed individual trees and scattered clumps of trees will be left at a density of 8 trees per acre in Units 1-4.

5. Animal

a. Circle or check any birds animals *or unique habitats* which have been observed on or near the site or are known to be on or near the site:

birds: ☒hawk, ☐heron, ☒eagle, ☐songbirds, ☐*pigeon*, ☒other: pileated woodpecker, raven
mammals: ☒deer, ☒bear, ☐elk, ☐beaver, ☐other:
fish: ☐bass, ☐salmon, ☐trout, ☐herring, ☐shellfish, ☐other:
unique habitats: ☐*talus slopes,* ☐*caves,* ☐*cliffs,* ☐*oak woodlands,* ☐*balds,* ☐*mineral springs*
*This is not meant to be an all inclusive list, but rather some of the species that were observed on the site.

b. List any threatened or endangered species known to be on or near the site *(include federal- and state-listed species).*

TSU Number	FMU_ID	Common Name	Federal Listing Status	WA State Listing Status
None Found in Database Search				

The Forest Practice TRAX report lists an osprey nest, detected in 1994, in Unit 1 of the proposed timber sale. Recent field observations found the nest and nest tree are no longer present.

c. Is the site part of a migration route? If so, explain.
☒*Pacific flyway* ☐*Other migration route:* *Explain if any boxes checked:*

d. Proposed measures to preserve or enhance wildlife, if any:

Dispersed and clumped leave trees will provide some structure for many wildlife species to use. The minimum density of leave trees will average 8 trees per acre for the sale. Snags and down wood will also be provided. The new open cover type created by the harvest will enhance habitat for a variety of wildlife species. Riparian management zone protection, the Wetland Management Zone of Unit 5, and leave tree areas around wetlands will maintain habitat for some wetland and forest dependent species.

1) *Note existing or proposed protection measures, if any, for the complete proposal described in question A-11.*

See answer 5 d.

6. **Energy and Natural Resources**

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

Does not apply.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

Does not apply.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

Does not apply.

7. **Environmental Health**

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

The operating of heavy machinery will pose a minimal level of hazard. Harvest operations will increase the risk of fire for a period of time. Contract language and State burning rules will contain a <30% humidity shutdown policy, and require operations to be performed in a manner that will reduce the risk of fire. A pump truck/trailer and fire suppression tools and equipment will be made readily available on site.

1) Describe special emergency services that might be required.

Wildland fire suppression

2) Proposed measures to reduce or control environmental health hazards, if any:

Contract language will require that preventative measures be taken to avoid on site disposal, or spilling of hazardous materials. The reporting and cleanup of any spills of petroleum based products or other waste will also be required. Pile burning of logging slash will follow Smoke Management Act guidelines. Hazardous fuels reduction of 100 feet distance will occur along Highway 104. Also see answer to B. 7. A.

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

Does not apply

2) What types and levels of noise would be created by or associated with the project on a short-term or long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from this site.

Noise will be created from chainsaws, heavy equipment, and log truck traffic while the sale is active.

3) Proposed measures to reduce or control noise impacts, if any:

None

8. **Land and Shoreline Use**

a. What is the current use of the site and adjacent properties? *(Site includes the complete proposal, e.g. rock pits and access roads.)*

State Lands timber production, private timber production, private residences.

b. Has the site been used for agriculture? If so, describe.

No

c. Describe any structures on the site.

None

d. Will any structures be demolished? If so, what?

No

e. What is the current zoning classification of the site?

Units 1 and 5 are zoned as rural forest. Units 2, 3 and 4 are zoned as commercial forest.

f. What is the current comprehensive plan designation of the site?

Units 1 and 5: rural forest. Units 2, 3 and 4: commercial forest.

g. If applicable, what is the current shoreline master program designation of the site?

Does not apply.

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

According to the Jefferson County Environmentally Sensitive Mapping Tool, parts of Units 2 and 3 have been label as, "soil types susceptible to critical aquifer recharge areas", and as, "soil types with slight to moderate landslide hazard in relation to building limitations for dwellings without basements." The proposed timber sale activity does not fall under county jurisdiction. State Forest Practices will be the lead agency, and activities are guided by Forest Practice rules and the State's Habitat Conservation Plan.

I. Approximately how many people would reside or work in the completed project?

None

j. Approximately how many people would the completed project displace?

None

k. Proposed measures to avoid or reduce displacement impacts, if any:

Does not apply.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

Proposed activities are compatable with land use designations.

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

Does not apply.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

Does not apply.

c. Proposed measures to reduce or control housing impacts, if any:

Does not apply.

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principle exterior building material(s) proposed?

Does not apply.

b. What views in the immediate vicinity would be altered or obstructed?

1) *Is this proposal visible from a residential area, town, city, developed recreation site, or a scenic vista?*
☒*No* ☐*Yes, viewing location:*

2) *Is this proposal visible from a major transportation or designated scenic corridor (county road, state or interstate highway, US route, river, or Columbia Gorge SMA)?*
☐*No* ☒*Yes, scenic corridor name:*

Parts of the proposed timber sale are visible from Hwy 104 and Hwy 19.

3) *How will this proposal affect any views described in 1) or 2) above?*

The majority of the sale area will be temporarily void of timber until regeneration is established.

c. Proposed measures to reduce or control aesthetic impacts, if any:

Dispersed and grouped retention of leave trees will help break up the outlines of the even aged harvest. Prompt reforestation will limit the length of time the harvest area will be visible.

11. Light and Glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

Some areas now shaded by timber will be exposed to sunlight.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

No

c. What existing off-site sources of light or glare may affect your proposal?

Does not apply.

d. Proposed measures to reduce or control light and glare impacts, if any:

None

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

There are informal opportunities for hiking, bird watching, hunting and target sports. Logging roads are also used for mountain bike riding and horseback riding.

b. Would the proposed project displace any existing recreational uses? If so, describe:

Displacement of these uses is not anticipated.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

None

13. Historic and Cultural Preservation

a. Are there any places or objects listed on, or proposed for national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

The TRAX database has been searched for any Known State Recorded sites. The Chimacum Valley area south of the proposed sale has one recorded archeological site in the TRAX database. These historic locations are not located within the same section as the proposed timber sale.

b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

Field observation has been conducted, and the Cultural Resource layer in the State Uplands Viewing Tool has been checked for Known Not Recorded sites. The site does not contain any areas of known interest.

c. Proposed measures to reduce or control impacts, if any:
(Include all meetings or consultations with tribes, archaeologists, anthropologists or other authorities.)

Not applicable.

14. Transportation

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

Access to the existing street system from Units 1, 2, & 5 is from the PT-V-5000, then to Larson Lake Rd, and the to Hwy 19.

Access to the existing street system from Units 3 and 4 is from the PT-1000, to Dabob Rd, to Center-Quilcene Rd, and to Hwy 104.

1) Is it likely that this proposal will contribute to an existing safety, noise, dust, maintenance, or other transportation impact problem(s)?

No. The transportation system was designed to accommodate commercial timber extraction and is consistent with past levels of use.

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

Does not apply

c. How many parking spaces would the completed project have? How many would the project eliminate?

Does not apply

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).

See answer to question A. 11. c.

1) How does this proposal impact the overall transportation system/circulation in the surrounding area, if at all?

The roads for this proposal have been planned to serve future management needs in the area. Such planning will provide for efficient use of the road system and eliminate unnecessary road construction.

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

No

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

A minor number of trips will be generated in association with normal land management activities.

g. Proposed measures to reduce or control transportation impacts, if any:

None

15. Public Services

a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

No

b. Proposed measures to reduce or control direct impacts on public services, if any.

Does not apply.

16. Utilities

a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.

None

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

Does not apply

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Completed by: Jeremy Brown NRS 1 Date: 01/12/2010
Title